

IN THE CLAIMS:

Please amend the claims as follows:

Claims 1-16 **(Cancelled)**

17. **(Currently amended)** A machine programming and control system,
comprising:

 a machine;

 a computer based controller coupled to the machine and being adapted to
edit, debug, and generate a continuous multi-block flowchart and to control the operations of
the machine in accordance with the flowchart; and

 a display coupled to the computer ~~[[based controller]]~~ based controller
adapted to aid in editing and generating the flowchart, the display including a screen
divided into a plurality of columns and rows, the display ~~[[for]]~~ adapted to display the
flowchart with a plurality of blocks, each of the plurality of blocks being disposed within
a cell defined by the columns and rows.

18. **(Currently amended)** The system, as set forth in claim 17, wherein
the computer based controller automatically generates high level source code for the
program from the flowchart.

19. **(Previously presented)** The system, as set forth in claim 17, wherein
the computer based controller automatically draws a connecting line between two
associated ones of the blocks after editing.

20. **(Currently amended)** The system, as set forth in claim 17, wherein the display is adapted to display a split screen having two portions and selectively displaying blocks in at least one of the two portions.

21. **(Previously presented)** The system, as set forth in claim 17, wherein the display is adapted to form a debugging window for displaying the blocks and having a tool bar for controlling program flow.

22. **(Previously presented)** The system, as set forth in claim 21, wherein the tool bar includes a toggle labels button and the computer based controller responds to actuation of the button for switching between default labels and alternate labels displayed for the blocks.

23. **(Previously presented)** The system, as set forth in claim 21, wherein the tool bar includes a Select Active Block button and the computer based controller responds to actuation of the button for displaying a currently active one of the blocks.

24. **(Currently amended)** The system, as set forth in claim 21, wherein the tool bar includes an Insert/Remove breakpoint button and the computer based controller responds to actuation of the button for displaying a currently active one of the blocks in a predetermined color and stopping execution of ~~[[the]]~~ a program before executing the currently active block.

25. **(Previously presented)** The system, as set forth in claim 24, wherein when the program reaches one of the blocks having a breakpoint, the computer based controller responds by changing the predetermined color to another predetermined color.

26. ~~[[27.]]~~ **(Currently amended)** The system, as set forth in claim 17, wherein the computer based controller includes means for adding a break point associated with a flowchart block and wherein the computer based controller being adapted to stop at the break point during a ~~[[the]]~~ debugging mode.

27. ~~[[28.]]~~ **(Currently amended)** The system, as set forth in claim 20, wherein the computer based controller includes means for selectively displaying a second set of blocks in ~~[[an other]]~~ another of the portions.

28. ~~[[29.]]~~ **(Currently amended)** The system, as set forth in claim 20, wherein the computer based controller includes means for selectively displaying a list of source code associated with the first of the blocks in ~~[[an other]]~~ another of the portions.

29. ~~[[30.]]~~ **(Currently amended)** The system, as set forth in claim 20, wherein the computer based controller includes means for selectively displaying one of a second set of blocks and a list of source code associated with the first of the blocks in ~~[[an other]]~~ another of the portions.

30. ~~[[34-]]~~ **(Currently amended)** The system, as set forth in claim 17, wherein a width of each column and a height of each row is determined in accordance with a size and spacing of the blocks.

31. ~~[[32-]]~~ **(Currently amended)** A method of machine programming and control, comprising the steps of: editing and generating a continuous multi-block flow chart via a computer based controller, the flow chart representing a program for controlling the operations of a machine connected to the computer based controller; operating the machine in accordance with the flowchart; and, displaying a plurality of blocks on a screen divided into a plurality of columns and rows, the plurality of blocks comprising the flowchart, each of the plurality of blocks being disposed within a cell defined by the columns and rows.

32. ~~[[34-]]~~ **(Currently amended)** The method, as set forth in claim ~~[[32]]~~ 31, wherein a width of each column and a height of each row is determined in accordance with a size and spacing of the blocks.

33. ~~[[32-]]~~ **(Currently amended)** The method, as set forth in claim ~~[[32]]~~ 31, including the step of automatically generating high level source code for the program from the flowchart.

34. ~~[[35-]]~~ **(Currently amended)** The method, as set forth in claim ~~[[32]]~~ 31, including the step of automatically drawing a connecting line between two associated ones of the blocks after editing.

Appln. No.: 09/812,500

Amdt. dated August 13, 2004

Reply to Office action of May 13, 2004

35. ~~[[36.]]~~ (Currently amended) The method, as set forth in claim ~~[[32]]~~ 31, including the step of displaying a split screen having two portions and selectively displaying blocks in at least one of the two portions.

36. ~~[[37.]]~~ (Currently amended) The method, as set forth in claim ~~[[32]]~~ 31, including the step of forming a debugging window for displaying the blocks and having a tool bar for controlling program flow.